

pension plan in the accompanying documents for this case, I did find its details in an economic loss report written by Craig L. Moore regarding the estate of Richard Gabrielle.² The “normal retirement plan” at Aon paid the average of the five highest-earning years in the 10 years prior to retirement times 2 percent times the number of years (up to 30 years). Thus, I assume Ms. Browne-Radburn would receive a pension equal to 40 percent of the average of her estimated salary in the 5 years leading to retirement.

In the few months she had worked at Aon prior to her death, Ms. Browne-Radburn had contributed 8 percent of her salary to a “Savings Plan” through Aon, much like a 401(k) savings plan. I assume she would have continued to contribute this percentage each year. The loss to her estate is the present value of what would have been left in this portfolio if Ms. Browne-Radburn withdrew 4 percent a year from this portfolio (a withdrawal rate widely considered the “gold standard” by financial planners), and the account continued to earn 4 percent per year in interest. I assume Ms. Browne-Radburn would have drawn down these savings in retirement each year so that she exhausted it in the year of her death.³

5. Income Taxes

A portion of Ms. Browne-Radburn earnings would have been taxed at the federal and state level. To estimate this tax liability, I use the TaxSim program, administered by the National Bureau of Economic Research (NBER).⁴

6. Personal Consumption

Ms. Browne-Radburn would have used a portion of her earnings and benefits for personal consumption. To estimate the portion of her income that would have gone to personal consumption, I use the Patton-Nelson tables, a widely referenced source to estimate the necessary consumption allowance to determine the portion of post-tax income that is to be included as a loss to the estimate.⁵ The Patton-Nelson method estimates the percent of income allocated to consumption by income, gender, and household size.

In addition, a portion of her earnings went to health care premiums. Based on my reading of the accompanying documents I have received, this amount would have been \$1203 in 2002. I assume these health care premiums would increase by 5 percent per year.

² Craig L. Moore. Economic Report Re: Estate of Richard Gabrielle. April 8, 2005. (received in May 2016 by Kreindler & Kreindler LLC).

³ Specifically, each year I assume she would withdraw a percentage of her remaining balance equal to the one divided by the number of years remaining in her life plus 1. Thus, at age 71, she withdraws $1/(80-71+1)=10\%$.

⁴ TaxSim takes as inputs taxable income, marital status, age, dependents, among others, and outputs federal, state, and FICA tax liabilities. For simplicity I assume the filer filed as “Single.”

⁵ Ruble, M.R., Patton, R.T. and Nelson, D.M., 2014. Patton-Nelson Personal Consumption Tables 2011-12. *J. Legal Econ.*, 21, p.41.

7. Lost Health Care for Ed Radburn

Ed Radburn received health care coverage through Ms. Browne-Radburn's position. To estimate this value to Ed, I assume he would have had to pay 3,592 for health care coverage in 2002, which was the average Single Health Insurance Premium in New York in 2003,⁶ and that this amount increases by 5 percent each year thereafter.

8. Lost Value of Household Services

By the account of the report I have received, Ms. Browne-Radburn was an incredibly devoted partner and companion to her husband Ed. Not only did she cook meals and clean the house, but she also did all the accounting for both the household and Ed's business.

To estimate the value of these lost services, I have used the "Replacement Rate" method to estimate what Ed Radburn would have to pay to hire someone to provide these services. I estimate Ms. Browne-Radburn spent an average of 1.08 hours/day on cooking and cleaning, which is the average amount spent by women according to the 2014 American Time Use Survey (ATUS),⁷ and that the value of these services is \$15/hour. I estimate Ed Radburn would have to pay an accountant \$3500/year to do his business's accounting, which is roughly what a typical small business spent on accounting according to a 2015 survey.⁸ I assume Ms. Browne-Radburn would have provided these accounting services until retirement at age 70.

9. Discount Rates

An estimate of the present value of the loss to Ms. Browne-Radburn's estate must discount future income streams at an appropriate rate. As such, I have discounted all income beyond 2016 at an annual rate of 2 percent.

⁶ The Commonwealth Fund. 2012. State Trends in Premiums and Deductibles, 2003-2011: Eroding Protection and Rising Costs Underscore Need for Action. http://www.commonwealthfund.org/~media/files/publications/issue-brief/2012/dec/premiums/1648_schoen_state_trends_premiums_deductibles_2003_2011_1210.pdf (accessed September 2016).

⁷ <http://www.bls.gov/TUS/CHARTS/HOUSEHOLD.HTM>

⁸ <http://www.prnewswire.com/news-releases/new-infographic-the-burden-of-small-business-accounting-taxes-and-payroll-300026479.html> Among small businesses surveyed by SCORE in 2014, the mode respondent reported spending between \$1000 and \$5000 per year on accounting, and \$3,500 is the average of this range.

Table 1: Summary of Economic Damages to the estate of Bettina Browne-Radburn

Present Value of Lost Earnings	6,003,038
Lost Health Care to Ed Radburn	128,304
Present Value of Lost Retirement Benefits	744,000
Present Value of Lost Household Services	238,942
Total	7,114,283

Table 2: Present Value of Economic Damages

[illegible]

Total

Table 3: Value of lost health care to Ed Radburn

Year	Age	Amount Ed would pay for Health Care Coverage	Present value	Discount
2002	50	3592	3592	0
2003	51	3772	3772	0
2004	52	3960	3960	0
2005	53	4158	4158	0
2006	54	4366	4366	0
2007	55	4584	4584	0
2008	56	4814	4814	0
2009	57	5054	5054	0
2010	58	5307	5307	0
2011	59	5572	5572	0
2012	60	5851	5851	0
2013	61	6144	6144	0
2014	62	6451	6451	0
2015	63	6773	6773	0
2016	64	7112	7112	1
2017	65	7468	7468	2
2018	66	7841	7841	3
2019	67	8233	8233	4
2020	68	8645	8645	5
2021	69	9077	9077	6
2022	70	9531	9531	7
Total			128303.6	

**Table 4: Value of
Contributions to Aon
Savings Plan**

year	Age	Value of holdings
2002	50	14560
2003	51	30285
2004	52	47244
2005	53	65512
2006	54	85166
2007	55	106287
2008	56	128961
2009	57	153280
2010	58	179337
2011	59	207234
2012	60	237076
2013	61	268973
2014	62	303043
2015	63	339409
2016	64	378198
2017	65	419548
2018	66	463600
2019	67	510506
2020	68	560422
2021	69	613514
2022	70	669958

Table 5: Present Value of Lost Retirement Benefits

Year	Age	Value of SIP contributions	Annuity from SIP	Pension Benefit	Social Security	Taxes	Post-tax retirement income	Consumption	Net Loss	Present Value	Discount
2023	71	669958	66996	71013	16092	49677	104424	18170	86254	75089	7
2024	72	627081	69676	71013	16092	50960	105820	18413	87407	74601	8
2025	73	579701	72463	71013	16092	52295	107272	18665	88607	74142	9
2026	74	527528	75361	71013	16092	53683	108783	18928	89855	73712	10
2027	75	470254	78376	71013	16092	55126	110354	18319	92035	74020	11
2028	76	407553	81511	71013	16092	56628	111988	18590	93398	73643	12
2029	77	339084	84771	71013	16092	58189	113687	18872	94815	73295	13
2030	78	264486	88162	71013	16092	58189	117078	19435	97643	74001	14
2031	79	183377	91688	71013	16092	58189	120604	19176	101428	75363	15
2032	80	95356	95356	71013	16092	58189	124272	19759	104513	76132	16

Total present value of lost retirement benefits

744000

Table 6 - Loss to Estimated Value of Household Services

Year	Age	Hours spent cooking and cleaning	Value of household service	Accounting services for Ed	Total lost services	Present Value	Discount
2002	50	394.20	5,913.00	3,500.00	9,413.00	9413	0
2003	51	394.20	5,913.00	3,500.00	9,413.00	9413	0
2004	52	394.20	5,913.00	3,500.00	9,413.00	9413	0
2005	53	394.20	5,913.00	3,500.00	9,413.00	9413	0
2006	54	394.20	5,913.00	3,500.00	9,413.00	9413	0
2007	55	394.20	5,913.00	3,500.00	9,413.00	9413	0
2008	56	394.20	5,913.00	3,500.00	9,413.00	9413	0
2009	57	394.20	5,913.00	3,500.00	9,413.00	9413	0
2010	58	394.20	5,913.00	3,500.00	9,413.00	9413	0
2011	59	394.20	5,913.00	3,500.00	9,413.00	9413	0
2012	60	394.20	5,913.00	3,500.00	9,413.00	9413	0
2013	61	394.20	5,913.00	3,500.00	9,413.00	9413	0
2014	62	394.20	5,913.00	3,500.00	9,413.00	9413	0
2015	63	394.20	5,913.00	3,500.00	9,413.00	9413	0
2016	64	394.20	5,913.00	3,500.00	9,413.00	9228	1
2017	65	394.20	5,913.00	3,500.00	9,413.00	9047	2
2018	66	394.20	5,913.00	3,500.00	9,413.00	8870	3
2019	67	394.20	5,913.00	3,500.00	9,413.00	8696	4
2020	68	394.20	5,913.00	3,500.00	9,413.00	8526	5
2021	69	394.20	5,913.00	3,500.00	9,413.00	8358	6
2022	70	394.20	5,913.00	3,500.00	9,413.00	8195	7
2023	71	394.20	5,913.00		5,913.00	5047	8
2024	72	394.20	5,913.00		5,913.00	4948	9
2025	73	394.20	5,913.00		5,913.00	4851	10
2026	74	394.20	5,913.00		5,913.00	4756	11
2027	75	394.20	5,913.00		5,913.00	4662	12
2028	76	394.20	5,913.00		5,913.00	4571	13
2029	77	394.20	5,913.00		5,913.00	4481	14
2030	78	394.20	5,913.00		5,913.00	4393	15
2031	79	394.20	5,913.00		5,913.00	4307	16
2032	80	394.20	5,913.00		5,913.00	4223	17
Total						238942	

MATTHEW S. JOHNSON

605 West Chapel Hill St, Apt 638

Durham, NC 27701

Cell: (626) 272-7455, Email: msjohn@bu.edu

Web site: <https://sites.google.com/site/mslaterjohnson/>

Citizenship: USA

EMPLOYMENT

Postdoctoral Scholar, Sanford School of Public Policy, Duke University, starting July 2016

EDUCATION

Ph.D., Economics, Boston University, Boston, MA, May 2016 (expected)

Dissertation Title: *Essays on Nonwage Compensation*

Dissertation Committee: Johannes Schmieder, Kevin Lang, David I. Levine

Visiting Ph.D. student, Harris School of Public Policy, University of Chicago, Chicago, IL, 2014-2015

B.A., Economics and History (*with Honors*), University of California, Berkeley, Berkeley, CA, 2007

RESEARCH FIELDS

Labor Economics, Public Economics, Organizational Economics

RESEARCH GRANTS

2014-2015: The Effects of OSHA Enforcement: An Analysis of a Very Large Sample of Randomized Inspections." Coalition for Evidence-Based Policy Low-Cost RCT Grant, \$100,000 (Co-PI with David I. Levine and Michael W. Toffel)

FELLOWSHIPS AND AWARDS

2015-2016: Pre-Doctoral Fellowship in Disability Policy, National Bureau of Economic Research

2014: Outstanding Paper Award, Alliance for Research on Corporate Sustainability (ARCS) Annual Conference

2014-2015: Funding for Research Assistant, RA Mentor Program, Boston University Department of Economics

2012: National Science Foundation Graduate Research Fellowship, Honorable Mention

2011-2016: Dean's Fellowship, Boston University

2007: Distinction in General Scholarship, UC Berkeley

TEACHING EXPERIENCE

2012-2013: Teaching Fellow, Principles of Microeconomics, Department of Economics, Boston University

RESEARCH EXPERIENCE

2013-2014: Research Assistant for Professors Carola Frydman, Claudia Olivetti and Daniele Paserman, Boston University

2009-2011: Research Assistant for Professors Laura Alfaro, Fritz Foley, and Michael Toffel, Harvard Business School

2007-2009: Senior Research Assistant for Dr. Martin Baily, The Brookings Institution

PUBLICATIONS

- Levine, David I., Michael W. Toffel, and Matthew S. Johnson. 2012. "Randomized Government Safety Inspections Reduce Worker Injuries with No Detectable Job Loss." *Science* 336, no. 6083.
- Baily, Martin N., Robert E. Litan and Matthew S. Johnson. 2008. "The Origins of the Financial Crisis." The Brookings Institution; Fixing Finance Series: Paper 3.
- Johnson, Matthew S. 2007. "The Power of Ideas and American Racial Struggles in the Early Nineteenth Century." *Clio's Scroll: Berkeley Undergraduate History Journal* (spring).

WORKING PAPERS

- "Regulation by Shaming: Deterrence Effects of Publicizing Violations of Workplace Safety Laws."

OTHER PUBLICATIONS

Harvard Business School (HBS) Teaching Materials

- Foley, C. Fritz, Matthew S. Johnson. "The Export-Import Bank of the United States." HBS Case 211-032.
- Foley, C. Fritz and Matthew S. Johnson. "Belco Global Foods." HBS Case 211-033.
- Alfaro, Laura, and Matthew Johnson. "Foreign Direct Investment and Ireland's Tiger Economy (B)." HBS Supplement 710-057.
- Foley, C. Fritz, Michael Chen, Matthew Johnson, Linnea Meyer. "Noble Group." HBS Case 210-021.

Book Chapters

- Alfaro, Laura and Matthew Johnson. 2012. "Foreign Direct Investment and Growth." Chap. 20 in *The Evidence and Impact of Financial Globalization*, edited by Gerard Caprio, 299–307. Elsevier.

CONFERENCES AND PRESENTATIONS

- 2016: Strategy and the Business Environment Annual Conference
- 2015: Southern Economic Association Annual Meeting
- 2014: Society of Labor Economists (SOLE) Annual Meeting; Alliance for Research in Corporate Sustainability (ARCS) Annual Meeting; Washington University Economics Graduate Student Conference; White House Office of Science and Technology Policy
- 2013: Harvard School of Public Health ERC Seminar
- 2012: Association for Public Policy and Management Fall Research Conference, Baltimore MD

COMPUTER SKILLS: STATA, LaTeX, R

OTHER EXPERIENCE

- 2014-2015: BU Labor Reading Group founder/organizer; 2013-2014: BU Graduate Economics Association Officer; 2012-2015: Volunteer Tutor with Tutoring Plus! (2012-2015)

Yvonne Kennedy

MATTHEW S. JOHNSON

605 West Chapel Hill St, Apt 638

Durham, NC 27701

Phone: (626) 272-7455

Email: m.slater.johnson@gmail.com

Analysis of Economic Loss in the Matter of
Estate of Yvonne Kennedy

September 2016

To Whom It May Concern,

I have been retained by Kreindler & Kreindler LLP to provide an estimate of the economic losses to the estate of Yvonne Kennedy as a result of her death in the terrorist attacks of September 11, 2001. The attached report provides the details of my analysis.

I have attached my Curriculum Vitae that describes my qualifications to undertake this report.

Matthew S. Johnson

MATTHEW S. JOHNSON

605 West Chapel Hill St, Apt 638
Durham, NC 27701
Phone: (626) 272-7455
Email: m.slater.johnson@gmail.com

1. Introduction

Yvonne Kennedy was born on June 26, 1939, and she was 62 years old when she was killed in the terrorist attacks of September 11, 2001. She was survived by her two sons Leigh and Simon Kennedy.

This report provides the details behind an estimate of the economic loss to the estate of Ms. Kennedy as a result of her death.

2. Life Expectancy

I have assumed Ms. Kennedy would live until age 84, the average life expectancy for a Caucasian woman aged 62 as of 2002.¹

3. Earnings Loss

Even though Ms. Kennedy was retired, she worked as a volunteer for the Red Cross, a position for which her 2001 tax returns show she received compensation. For the period July 2000-June 2001, she received \$14,918, which I assume was her annual earnings for this position. The documents I have received suggest Ms. Kennedy was passionate about her work with the Red Cross, and that she was in excellent health. Thus, I assume she would continue working in this position until the year prior to her death. Additionally, I assume her earnings would increase at a rate of 2 percent per year.

The tax return indicates \$2807 in tax was withheld from Ms. Kennedy's earnings. I thus assume this income is taxed at a rate of $(2807/14918=)$ 19%.

4. Pension benefits

According to Ms. Kennedy's 2001 tax return, she received a pension from the Australian government. She received \$5064 in 2001, which the tax return indicates was for the months January-June of 2001. I thus infer her annual pension would be $(5064*2=)$ \$10,128. The tax return shows no taxes were withheld from this pension benefit, so I assume no tax is withheld.

5. Personal Consumption

¹ National Vital Statistics Reports. United States Life Tables, 2002. Volume 53, No. 6, November 10, 2004.

Ms. Kennedy would have used a portion of her earnings and benefits for personal consumption. To estimate the portion of her income that would have gone to personal consumption, I use the Patton-Nelson tables, a widely referenced source to estimate the necessary consumption allowance to determine the portion of post-tax income that is to be included as a loss to the estimate.² The Patton-Nelson method estimates the percent of income allocated to consumption by income, gender, and household size. While Ms. Kennedy lived alone at the time of her death, the report I have received makes evident how much she supported her two sons, both financially and emotionally. Thus, for the purposes of estimating her consumption percentage, I use the consumption percentage corresponding to a female making \$30,000 living in 3-person household, which is 26.6 percent.

6. Exchange rate

To convert the estimated loss to the Kennedy estate in US dollars, I used the average annual exchange rate between the Australian and American dollar between 2001-2016.

³For years after 2016, I assume the exchange rate remains at its 2016 level.

7. Discount Rates

An estimate of the present value of the loss to Ms. Kennedy's estate must discount future income streams at an appropriate rate. As such, I have discounted all income beyond 2016 at an annual rate of 2 percent.

² Ruble, M.R., Patton, R.T. and Nelson, D.M., 2014. Patton-Nelson Personal Consumption Tables 2011-12. *J. Legal Econ.*, 21, p.41.

³ Source: USForex.com, accessed 10/7/2016: <http://www.usforex.com/forex-tools/historical-rate-tools/yearly-average-rates>

**Table 1: Summary of Economic Damages to the Estate Of
Yvonne Kennedy**

Present Value of Lost Earnings and Pension Benefits	308,729
Total	308,729

Table 4: Present Value of Lost Earnings and Pension Benefits

Year	Age	Red Cross Earnings	Australian pension	Taxes on earnings	Post-tax retirement income	Consumption	Net Loss (AUS \$)	AUS \$ / US\$ exchange rate	Net Loss (US\$)	Present Value (US\$)	Discount
2002	63	14918	10128	2807	22239	5782	16457	0.54	8937	8937	0
2003	64	15216	10128	2863	22481	5845	16636	0.65	10893	10893	0
2004	65	15521	10128	2920	22728	5909	16819	0.74	12385	12385	0
2005	66	15831	10128	2979	22980	5975	17005	0.76	12966	12966	0
2006	67	16148	10128	3038	23237	6042	17196	0.75	12956	12956	0
2007	68	16471	10128	3099	23500	6110	17390	0.84	14584	14584	0
2008	69	16800	10128	3161	23767	6179	17588	0.85	15005	15005	0
2009	70	17136	10128	3224	24040	6250	17789	0.79	14091	14091	0
2010	71	17479	10128	3289	24318	6323	17995	0.92	16550	16550	0
2011	72	17828	10128	3355	24602	6396	18205	1.03	18822	18822	0
2012	73	18185	10128	3422	24891	6472	18420	1.04	19081	19081	0
2013	74	18549	10128	3490	25187	6548	18638	0.97	18040	18040	0
2014	75	18920	10128	3560	25488	6627	18861	0.90	17028	17028	0
2015	76	19298	10128	3631	25795	6707	19088	0.75	14357	14357	0
2016	77	19684	10128	3704	26108	6788	19320	0.74	14344	14344	0
2017	78	20078	10128	3778	26428	6871	19557	0.74	14519	14235	1
2018	79	20479	10128	3853	26754	6956	19798	0.74	14699	14128	2
2019	80	20889	10128	3930	27086	7042	20044	0.74	14881	14023	3
2020	81	21307	10128	4009	27425	7131	20295	0.74	15068	13920	4
2021	82	21733	10128	4089	27771	7221	20551	0.74	15258	13819	5
2022	83	22167	10128	4171	28124	7312	20812	0.74	15452	13721	6
2023	84		10128		10128	2633	7495	0.74	5564	4844	7
Total										308729	

MATTHEW S. JOHNSON

605 West Chapel Hill St, Apt 638

Durham, NC 27701

Cell: (626) 272-7455, Email: msjohn@bu.edu

Web site: <https://sites.google.com/site/mslaterjohnson/>

Citizenship: USA

EMPLOYMENT

Postdoctoral Scholar, Sanford School of Public Policy, Duke University, starting July 2016

EDUCATION

Ph.D., Economics, Boston University, Boston, MA, May 2016 (expected)

Dissertation Title: *Essays on Nonwage Compensation*

Dissertation Committee: Johannes Schmieder, Kevin Lang, David I. Levine

Visiting Ph.D. student, Harris School of Public Policy, University of Chicago, Chicago, IL, 2014-2015

B.A., Economics and History (*with Honors*), University of California, Berkeley, Berkeley, CA, 2007

RESEARCH FIELDS

Labor Economics, Public Economics, Organizational Economics

RESEARCH GRANTS

2014-2015: The Effects of OSHA Enforcement: An Analysis of a Very Large Sample of Randomized Inspections.” Coalition for Evidence-Based Policy Low-Cost RCT Grant, \$100,000 (Co-PI with David I. Levine and Michael W. Toffel)

FELLOWSHIPS AND AWARDS

2015-2016: Pre-Doctoral Fellowship in Disability Policy, National Bureau of Economic Research

2014: Outstanding Paper Award, Alliance for Research on Corporate Sustainability (ARCS) Annual Conference

2014-2015: Funding for Research Assistant, RA Mentor Program, Boston University Department of Economics

2012: National Science Foundation Graduate Research Fellowship, Honorable Mention

2011-2016: Dean’s Fellowship, Boston University

2007: Distinction in General Scholarship, UC Berkeley

TEACHING EXPERIENCE

2012-2013: Teaching Fellow, Principles of Microeconomics, Department of Economics, Boston University

RESEARCH EXPERIENCE

2013-2014: Research Assistant for Professors Carola Frydman, Claudia Olivetti and Daniele Paserman, Boston University

2009-2011: Research Assistant for Professors Laura Alfaro, Fritz Foley, and Michael Toffel, Harvard Business School

2007-2009: Senior Research Assistant for Dr. Martin Baily, The Brookings Institution

PUBLICATIONS

- Levine, David I., Michael W. Toffel, and Matthew S. Johnson. 2012. "Randomized Government Safety Inspections Reduce Worker Injuries with No Detectable Job Loss." *Science* 336, no. 6083.
- Baily, Martin N., Robert E. Litan and Matthew S. Johnson. 2008. "The Origins of the Financial Crisis." The Brookings Institution; Fixing Finance Series: Paper 3.
- Johnson, Matthew S. 2007. "The Power of Ideas and American Racial Struggles in the Early Nineteenth Century." *Clio's Scroll: Berkeley Undergraduate History Journal* (spring).

WORKING PAPERS

- "Regulation by Shaming: Deterrence Effects of Publicizing Violations of Workplace Safety Laws."

OTHER PUBLICATIONS

Harvard Business School (HBS) Teaching Materials

- Foley, C. Fritz, Matthew S. Johnson. "The Export-Import Bank of the United States." HBS Case 211-032.
- Foley, C. Fritz and Matthew S. Johnson. "Belco Global Foods." HBS Case 211-033.
- Alfaro, Laura, and Matthew Johnson. "Foreign Direct Investment and Ireland's Tiger Economy (B)." HBS Supplement 710-057.
- Foley, C. Fritz, Michael Chen, Matthew Johnson, Linnea Meyer. "Noble Group." HBS Case 210-021.

Book Chapters

- Alfaro, Laura and Matthew Johnson. 2012. "Foreign Direct Investment and Growth." Chap. 20 in *The Evidence and Impact of Financial Globalization*, edited by Gerard Caprio, 299–307. Elsevier.

CONFERENCES AND PRESENTATIONS

- 2016: Strategy and the Business Environment Annual Conference
- 2015: Southern Economic Association Annual Meeting
- 2014: Society of Labor Economists (SOLE) Annual Meeting; Alliance for Research in Corporate Sustainability (ARCS) Annual Meeting; Washington University Economics Graduate Student Conference; White House Office of Science and Technology Policy
- 2013: Harvard School of Public Health ERC Seminar
- 2012: Association for Public Policy and Management Fall Research Conference, Baltimore MD

COMPUTER SKILLS: STATA, LaTeX, R

OTHER EXPERIENCE

- 2014-2015: BU Labor Reading Group founder/organizer; 2013-2014: BU Graduate Economics Association Officer; 2012-2015: Volunteer Tutor with Tutoring Plus! (2012-2015)

Ruben Ornedo

MATTHEW S. JOHNSON

605 West Chapel Hill St, Apt 638

Durham, NC 27701

Phone: (626) 272-7455

Email: m.slater.johnson@gmail.com

Analysis of Economic Loss in the Matter of
Estate of Ruben Ornedo

October 2016

To Whom It May Concern,

I have been retained by Kreindler & Kreindler LLP to provide an estimate of the economic losses to the estate of Ruben Ornedo following his death in the terrorist attacks of September 11, 2001. In the documents I have been given, however, I received a report written by Craig L. Moore, dated November 22, 2003, which already conducted an estimate of the economic loss to Mr. Ornedo's estate. Thus, rather than create a new report, I am bringing the estimate provided by Mr. Moore to present value as of 2016. The attached report provides the details of my analysis.

I have attached my Curriculum Vitae that describes my qualifications to undertake this report.

Matthew S. Johnson

MATTHEW S. JOHNSON

605 West Chapel Hill St, Apt 638

Durham, NC 27701

Phone: (626) 272-7455

Email: m.slater.johnson@gmail.com

1. Introduction

Ruben Ornedo was killed in the terrorist attacks of September 11, 2001. This is a report to bring to present value (as of October 2016) an estimate of the economic loss to the estate of Mr. Ornedo as a result of his death. This estimate was conducted by Kevin L. Moore, in a report dated November 22, 2003.

2. Details of the update

The report I have received written by Kevin L. Moore included information about Mr. Ornedo's earnings at the time of his death, Mr. Moore's formula's for calculating the estimated value of his fringe benefits and lost household services, and various parameters such as the assumed tax rate Mr. Ornedo would face, the percent of his income that would be allocated to personal consumption, and the discount rate to discount future income to present value. One parameter not included in the report was the assumed growth rate of Mr. Ornedo's earnings, but I was able to infer it based on his 2001 earnings and Mr. Moore's calculated total estimated present value of lost earnings in the report. The rate I inferred was a 4.9 percent annual increase in earnings and benefits.

The attached tables include the details of my analysis.

Table 1: Summary of Economic Damages to the estate of Ruben Ornedo

	work until age	
	65	67
Present Value of Lost Earnings and employee benefits	3,594,694	3,905,948
Present Value of Lost Household Services	142,895	142895
Total	3,737,589	4,048,842

Table 2: Present Value of Lost Earnings

Year	Age	Annual Salary	Fringe benefits	Total pre-tax earnings	Taxes	Take Home Pay	Consumption	Net Loss	Present Value	Discount
2002	40	110,683	6,827	117,510	25,382	92,128	6,173	85,956	85,956	0
2003	41	116,106	7,162	123,268	26,626	96,642	6,475	90,167	90,167	0
2004	42	121,796	7,513	129,308	27,931	101,378	6,792	94,586	94,586	0
2005	43	127,764	7,881	135,645	29,299	106,345	7,125	99,220	99,220	0
2006	44	134,024	8,267	142,291	30,735	111,556	7,474	104,082	104,082	0
2007	45	140,591	8,672	149,263	32,241	117,023	7,841	109,182	109,182	0
2008	46	147,480	9,097	156,577	33,821	122,757	8,225	114,532	114,532	0
2009	47	154,707	9,543	164,250	35,478	128,772	8,628	120,144	120,144	0
2010	48	162,287	10,010	172,298	37,216	135,082	9,050	126,031	126,031	0
2011	49	170,239	10,501	180,740	39,040	141,701	9,494	132,207	132,207	0
2012	50	178,581	11,016	189,597	40,953	148,644	9,959	138,685	138,685	0
2013	51	187,332	11,555	198,887	42,960	155,927	10,447	145,480	145,480	0
2014	52	196,511	12,121	208,632	45,065	163,568	10,959	152,609	152,609	0
2015	53	206,140	12,715	218,855	47,273	171,583	11,496	160,087	160,087	0
2016	54	216,241	13,339	229,579	49,589	179,990	12,059	167,931	167,931	0
2017	55	226,837	13,992	240,829	52,019	188,810	12,650	176,159	167,771	1
2018	56	237,952	14,678	252,629	54,568	198,061	13,270	184,791	167,611	2
2019	57	249,611	15,397	265,008	57,242	207,766	13,920	193,846	167,452	3
2020	58	261,842	16,151	277,994	60,047	217,947	27,243	190,704	156,892	4
2021	59	274,673	16,943	291,615	62,989	228,626	28,578	200,048	156,743	5
2022	60	288,131	17,773	305,904	66,075	239,829	29,979	209,850	156,594	6
2023	61	302,250	18,644	320,894	69,313	251,581	31,448	220,133	156,444	7
2024	62	317,060	19,557	336,618	72,709	263,908	32,989	230,920	156,295	8
2025	63	332,596	20,516	353,112	76,272	276,840	34,605	242,235	156,147	9
2026	64	348,893	21,521	370,414	80,009	290,405	36,301	254,104	155,998	10
2027	65	365,989	22,576	388,565	83,930	304,635	38,079	266,555	155,849	11
2028	66	383,923	23,682	407,604	88,043	319,562	39,945	279,617	155,701	12
2029	67	402,735	24,842	427,577	92,357	335,220	41,903	293,318	155,553	13

Total if work to age 65**3,594,694****Total if work to age 67****3,905,948**

Table 4 - Loss to Estimated Value of Household Services

Year	Age	Child's age	Hours/year	Value of household service	Present Value	Discount
2002	40	4	432	6,480	6480	0
2003	41	5	432	6,480	6480	0
2004	42	6	337	5,055	5055	0
2005	43	7	337	5,055	5055	0
2006	44	8	337	5,055	5055	0
2007	45	9	337	5,055	5055	0
2008	46	10	337	5,055	5055	0
2009	47	11	337	5,055	5055	0
2010	48	12	336	5,040	5040	0
2011	49	13	336	5,040	5040	0
2012	50	14	336	5,040	5040	0
2013	51	15	336	5,040	5040	0
2014	52	16	336	5,040	5040	0
2015	53	17	336	5,040	5040	0
2016	54	18	336	5,040	5040	0
2017	55		336	5,040	4851	1
2018	56		336	5,040	4669	2
2019	57		336	5,040	4493	3
2020	58		336	5,040	4325	4
2021	59		336	5,040	4162	5
2022	60		336	5,040	4006	6
2023	61		336	5,040	3856	7
2024	62		336	5,040	3711	8
2025	63		336	5,040	3572	9
2026	64		336	5,040	3438	10
2027	65		336	5,040	3309	11
2028	66		336	5,040	3185	12
2029	67		336	5,040	3065	13
2030	68		336	5,040	2950	14
2031	69		336	5,040	2839	15
2032	70		336	5,040	2733	16
2033	71		336	5,040	2630	17
2034	72		336	5,040	2531	18
Total					142895	

MATTHEW S. JOHNSON

605 West Chapel Hill St, Apt 638

Durham, NC 27701

Cell: (626) 272-7455, Email: msjohn@bu.edu

Web site: <https://sites.google.com/site/mslaterjohnson/>

Citizenship: USA

EMPLOYMENT

Postdoctoral Scholar, Sanford School of Public Policy, Duke University, starting July 2016

EDUCATION

Ph.D., Economics, Boston University, Boston, MA, May 2016 (expected)

Dissertation Title: *Essays on Nonwage Compensation*

Dissertation Committee: Johannes Schmieder, Kevin Lang, David I. Levine

Visiting Ph.D. student, Harris School of Public Policy, University of Chicago, Chicago, IL, 2014-2015

B.A., Economics and History (*with Honors*), University of California, Berkeley, Berkeley, CA, 2007

RESEARCH FIELDS

Labor Economics, Public Economics, Organizational Economics

RESEARCH GRANTS

2014-2015: The Effects of OSHA Enforcement: An Analysis of a Very Large Sample of Randomized Inspections." Coalition for Evidence-Based Policy Low-Cost RCT Grant, \$100,000 (Co-PI with David I. Levine and Michael W. Toffel)

FELLOWSHIPS AND AWARDS

2015-2016: Pre-Doctoral Fellowship in Disability Policy, National Bureau of Economic Research

2014: Outstanding Paper Award, Alliance for Research on Corporate Sustainability (ARCS) Annual Conference

2014-2015: Funding for Research Assistant, RA Mentor Program, Boston University Department of Economics

2012: National Science Foundation Graduate Research Fellowship, Honorable Mention

2011-2016: Dean's Fellowship, Boston University

2007: Distinction in General Scholarship, UC Berkeley

TEACHING EXPERIENCE

2012-2013: Teaching Fellow, Principles of Microeconomics, Department of Economics, Boston University

RESEARCH EXPERIENCE

2013-2014: Research Assistant for Professors Carola Frydman, Claudia Olivetti and Daniele Paserman, Boston University

2009-2011: Research Assistant for Professors Laura Alfaro, Fritz Foley, and Michael Toffel, Harvard Business School

2007-2009: Senior Research Assistant for Dr. Martin Baily, The Brookings Institution

PUBLICATIONS

- Levine, David I., Michael W. Toffel, and Matthew S. Johnson. 2012. "Randomized Government Safety Inspections Reduce Worker Injuries with No Detectable Job Loss." *Science* 336, no. 6083.
- Baily, Martin N., Robert E. Litan and Matthew S. Johnson. 2008. "The Origins of the Financial Crisis." The Brookings Institution; Fixing Finance Series: Paper 3.
- Johnson, Matthew S. 2007. "The Power of Ideas and American Racial Struggles in the Early Nineteenth Century." *Clio's Scroll: Berkeley Undergraduate History Journal* (spring).

WORKING PAPERS

- "Regulation by Shaming: Deterrence Effects of Publicizing Violations of Workplace Safety Laws."

OTHER PUBLICATIONS

Harvard Business School (HBS) Teaching Materials

- Foley, C. Fritz, Matthew S. Johnson. "The Export-Import Bank of the United States." HBS Case 211-032.
- Foley, C. Fritz and Matthew S. Johnson. "Belco Global Foods." HBS Case 211-033.
- Alfaro, Laura, and Matthew Johnson. "Foreign Direct Investment and Ireland's Tiger Economy (B)." HBS Supplement 710-057.
- Foley, C. Fritz, Michael Chen, Matthew Johnson, Linnea Meyer. "Noble Group." HBS Case 210-021.

Book Chapters

- Alfaro, Laura and Matthew Johnson. 2012. "Foreign Direct Investment and Growth." Chap. 20 in *The Evidence and Impact of Financial Globalization*, edited by Gerard Caprio, 299–307. Elsevier.

CONFERENCES AND PRESENTATIONS

- 2016: Strategy and the Business Environment Annual Conference
- 2015: Southern Economic Association Annual Meeting
- 2014: Society of Labor Economists (SOLE) Annual Meeting; Alliance for Research in Corporate Sustainability (ARCS) Annual Meeting; Washington University Economics Graduate Student Conference; White House Office of Science and Technology Policy
- 2013: Harvard School of Public Health ERC Seminar
- 2012: Association for Public Policy and Management Fall Research Conference, Baltimore MD

COMPUTER SKILLS: STATA, LaTeX, R

OTHER EXPERIENCE

- 2014-2015: BU Labor Reading Group founder/organizer; 2013-2014: BU Graduate Economics Association Officer; 2012-2015: Volunteer Tutor with Tutoring Plus! (2012-2015)

Horace R. Passananti

MATTHEW S. JOHNSON

605 West Chapel Hill St, Apt 638

Durham, NC 27701

Phone: (626) 272-7455

Email: m.slater.johnson@gmail.com

Analysis of Economic Loss in the Matter of
Estate of Horace R. Passananti

September 2016

To Whom It May Concern,

I have been retained by Kreindler & Kreindler LLP to provide an estimate of the economic losses to the estate of Horace R. Passananti following his death in the terrorist attacks of September 11, 2001. The attached report provides the details of my analysis.

I have attached my Curriculum Vitae that describes my qualifications to undertake this report.

Matthew S. Johnson

MATTHEW S. JOHNSON

605 West Chapel Hill St, Apt 638

Durham, NC 27701

Phone: (626) 272-7455

Email: m.slater.johnson@gmail.com

1. Introduction

Horace R. Passananti was born on September 24, 1945, and he was 55 years old when he was killed in the terrorist attacks of September 11, 2001. He was survived by two children Sean (age 32) and Michael (age 28).

This report provides the details behind an estimate of the economic loss to the estate of Mr. Passananti as a result of his death.

2. Retirement and Life Expectancy

I have assumed Mr. Passananti would work until the age of 65, and that he would live until age 78, the average life expectancy of a male aged 55 as of 2002.¹

3. Earnings Loss

At the time of his death, Horace Passananti was an Associate Corporate Claims Manager with Marsh Inc, a position he had held since September 1998. I have assumed that Mr. Passananti would have continued at Marsh until his retirement.

My estimate of the lost earnings to Mr. Passananti's estate is based on the documents I have received from Kreindler & Kreindler LLP. At the time of his death, Mr. Passananti's salary was \$87,000, and I assume his salary would have increased at an annual rate of 3.2% through retirement, which is the average annual increase in his salary over the 4 years prior to his death.

4. Retirement Benefits

Through his position at Marsh, Mr. Passananti would have received a traditional pension, which according to the documents I have received would have paid an estimated \$26,080 per year after retirement.

Additionally, Marsh offered other retirement benefits which, based on his history, I assume Mr. Passananti would have taken advantage of. First, Marsh offered a Stock Investment Plan (a 401(k) type plan) in which employees made pre-tax contributions, and Marsh matched contributions up to 6% of the employee's salary. Mr. Passananti contributed \$7,400 to his SIP in 2000, and was on track for a similar annual contribution in 2001. I assume Mr. Passananti's contributions would have increased each year by 3.2 percent (the same rate I have assumed his salary would increase), and I assume this

¹ National Vital Statistics Reports. United States Life Tables, 2002. Volume 53, No. 6, November 10, 2004.

401(k) would have achieved an annual rate of return of 4 percent, which is in line with predictions of many financial experts as of 2014.²

Additionally, Marsh offered a Stock Purchase Plan (SPP) in which employees could purchase Marsh and McClennan Companies (MMC) stock at a discount. The plan essentially allows employees to buy MMC stock at a 15 percent discount of whichever is lower between the stock price the first and last day of the plan year. Before making the purchase, any contributions the employee makes to the SPP receive interest at a rate of 5 percent. In 2000 and 2001, Mr. Passananti contributed 4 percent of his salary to the SPP, and I assume he would have continued to do so through retirement. To estimate the accumulated value of Mr. Passananti's SPP contributions, I combine the formula underlying this benefit with data on MMC's historical stock prices.

To calculate the loss to the estate accruing from the lost SIP and SPP contributions, I assume Mr. Passananti would have drawn down these savings in retirement each year so that he exhausted it in the year of his death.³

5. Income Taxes

A portion of Mr. Passananti's earnings would have been taxed at the federal and state level and for FICA. To estimate this tax liability, I use the TaxSim program, administered by the National Bureau of Economic Research (NBER).⁴

6. Personal Consumption

Mr. Passananti would have used a portion of his earnings and benefits for personal consumption. To estimate the portion of Mr. Passananti income that would have gone to personal consumption, I use the Patton-Nelson tables, a widely referenced source to estimate the necessary consumption allowance to determine the portion of post-tax income that is to be included as a loss to the estimate.⁵

7. Discount Rates

An estimate of the present value of the loss to Mr. Passananti's estate must discount future income streams at an appropriate rate. As such, I have discounted all income beyond 2016 at an annual rate of 2 percent.

² Ruth Davis Konigsberg, 2014. "Why Your 401(k) May Only Return 4%." Time.com <http://time.com/money/3247321/retirement-401k-no-more-10-returns/> (accessed 9/5/2016)

³ Specifically, each year I assume he would withdraw a percentage of his remaining balance equal to the one divided by the number of years remaining in his life plus 1. Thus, at age 66, he withdraws $1/(77-66+1)=8.3\%$.

⁴ TaxSim takes as inputs taxable income, marital status, age, dependents, among others, and outputs federal, state, and FICA tax liabilities. For simplicity I assume the filer filed as "Single."

⁵ Ruble, M.R., Patton, R.T. and Nelson, D.M., 2014. Patton-Nelson Personal Consumption Tables 2011-12. *J. Legal Econ.*, 21, p.41.

**Table 1: Summary of Economic Damages to the
estate of of Horace Passananti**

Present Value of Lost Earnings	159,936
Present Value of Lost Retirement Benefits	468,466
Total	628,402

Table 2: Present Value of Lost Earnings

Year	Age	Annual Salary	Taken out for Investment Plan (401(k))	Taken out for health and dental	Taxable Income	Taken out for Stock Purchase Plan	Taxes	Take Home Pay	Consumption	Net Loss	Present Value	Discount
2002	56	87,000	7,400	2,989	76,611	3,480	29,400	43,731	31,530	12,201	12,201	0
2003	57	89,784	7,637	3,138	79,009	3,591	29,616	45,802	33,023	12,779	12,779	0
2004	58	92,657	7,881	3,295	81,481	3,706	30,683	47,092	33,953	13,139	13,139	0
2005	59	95,622	8,133	3,460	84,029	3,825	31,758	48,446	34,930	13,516	13,516	0
2006	60	98,682	8,394	3,633	86,655	3,947	32,787	49,921	35,993	13,928	13,928	0
2007	61	101,840	8,662	3,815	89,363	4,074	33,857	51,432	33,739	17,693	17,693	0
2008	62	105,099	8,939	4,006	92,154	4,204	35,055	52,895	34,699	18,196	18,196	0
2009	63	108,462	9,225	4,206	95,031	4,338	36,114	54,578	35,803	18,775	18,775	0
2010	64	111,933	9,521	4,416	97,996	4,477	37,576	55,943	36,698	19,244	19,244	0
2011	65	115,515	9,825	4,637	101,052	4,621	36,939	59,493	39,027	20,466	20,466	0

Total**159,936**

Table 5: Value of Contributions to Marsh Stock Purchase Plan

year	Age	Contributed by employee	Value of contributions after interest	Annual growth in Marsh stock	Value of contributions after stock purchase	Accumulated value at end of year
2002	56	3,480	3,654	-10.43%	4298.82	4299
2003	57	3,591	3,771	12.48%	4990.03	9825
2004	58	3,706	3,892	-4.21%	4578.35	13990
2005	59	3,825	4,016	-44.43%	4724.86	12498
2006	60	3,947	4,145	23.60%	6026.92	21475
2007	61	4,074	4,277	-22.68%	5032.09	21637
2008	62	4,204	4,414	-2.84%	5193.11	26215
2009	63	4,338	4,555	43.27%	7678.22	45237
2010	64	4,477	4,701	27.22%	7036.55	64589
2011	65	4,621	4,852	18.65%	6772.09	83405

Table 6: Present Value of Lost Retirement Benefits

Year	Age	Pension Benefit	Value of SIP and SPP contributions	Annuity from SIP and SPP contributions	Social security benefits	Total pre-tax retirement income	Taxes	Total post-tax retirement income	Consumption from Pension	Net Loss from Pension	Present Value of Net Loss	Discount
2012	66	26080	263876	21990	16092	64162	13062	51099	12315	38784	38784	0
2013	67	26080	251562	22869	16092	65041	13741	51300	12363	38937	38937	0
2014	68	26080	237840	23784	16092	65956	14160	51796	12483	39313	39313	0
2015	69	26080	222619	24735	16092	66907	14596	52311	12607	39704	39704	0
2016	70	26080	205799	25725	16092	67897	15050	52847	12736	40111	40111	0
2017	71	26080	187277	26754	16092	68926	15521	53404	12870	40534	39739	1
2018	72	26080	166944	27824	16092	69996	16012	53984	13010	40974	39383	2
2019	73	26080	144685	28937	16092	71109	16522	54587	13155	41432	39042	3
2020	74	26080	120378	30094	16092	72266	17052	55214	13307	41908	38716	4
2021	75	26080	93895	31298	16092	73470	17604	55866	13464	42403	38405	5
2022	76	26080	65100	32550	16092	74722	18178	56545	13627	42917	38109	6
2023	77	26080	33852	33852	16092	76024	18178	57847	13941	43906	38222	7

Total loss from Retirement benefits**468466**

MATTHEW S. JOHNSON

605 West Chapel Hill St, Apt 638

Durham, NC 27701

Cell: (626) 272-7455, Email: msjohn@bu.edu

Web site: <https://sites.google.com/site/mslaterjohnson/>

Citizenship: USA

EMPLOYMENT

Postdoctoral Scholar, Sanford School of Public Policy, Duke University, starting July 2016

EDUCATION

Ph.D., Economics, Boston University, Boston, MA, May 2016 (expected)

Dissertation Title: *Essays on Nonwage Compensation*

Dissertation Committee: Johannes Schmieder, Kevin Lang, David I. Levine

Visiting Ph.D. student, Harris School of Public Policy, University of Chicago, Chicago, IL, 2014-2015

B.A., Economics and History (*with Honors*), University of California, Berkeley, Berkeley, CA, 2007

RESEARCH FIELDS

Labor Economics, Public Economics, Organizational Economics

RESEARCH GRANTS

2014-2015: The Effects of OSHA Enforcement: An Analysis of a Very Large Sample of Randomized Inspections." Coalition for Evidence-Based Policy Low-Cost RCT Grant, \$100,000 (Co-PI with David I. Levine and Michael W. Toffel)

FELLOWSHIPS AND AWARDS

2015-2016: Pre-Doctoral Fellowship in Disability Policy, National Bureau of Economic Research

2014: Outstanding Paper Award, Alliance for Research on Corporate Sustainability (ARCS) Annual Conference

2014-2015: Funding for Research Assistant, RA Mentor Program, Boston University Department of Economics

2012: National Science Foundation Graduate Research Fellowship, Honorable Mention

2011-2016: Dean's Fellowship, Boston University

2007: Distinction in General Scholarship, UC Berkeley

TEACHING EXPERIENCE

2012-2013: Teaching Fellow, Principles of Microeconomics, Department of Economics, Boston University

RESEARCH EXPERIENCE

2013-2014: Research Assistant for Professors Carola Frydman, Claudia Olivetti and Daniele Paserman, Boston University

2009-2011: Research Assistant for Professors Laura Alfaro, Fritz Foley, and Michael Toffel, Harvard Business School

2007-2009: Senior Research Assistant for Dr. Martin Baily, The Brookings Institution

PUBLICATIONS

- Levine, David I., Michael W. Toffel, and Matthew S. Johnson. 2012. "Randomized Government Safety Inspections Reduce Worker Injuries with No Detectable Job Loss." *Science* 336, no. 6083.
- Baily, Martin N., Robert E. Litan and Matthew S. Johnson. 2008. "The Origins of the Financial Crisis." The Brookings Institution; Fixing Finance Series: Paper 3.
- Johnson, Matthew S. 2007. "The Power of Ideas and American Racial Struggles in the Early Nineteenth Century." *Clio's Scroll: Berkeley Undergraduate History Journal* (spring).

WORKING PAPERS

- "Regulation by Shaming: Deterrence Effects of Publicizing Violations of Workplace Safety Laws."

OTHER PUBLICATIONS

Harvard Business School (HBS) Teaching Materials

- Foley, C. Fritz, Matthew S. Johnson. "The Export-Import Bank of the United States." HBS Case 211-032.
- Foley, C. Fritz and Matthew S. Johnson. "Belco Global Foods." HBS Case 211-033.
- Alfaro, Laura, and Matthew Johnson. "Foreign Direct Investment and Ireland's Tiger Economy (B)." HBS Supplement 710-057.
- Foley, C. Fritz, Michael Chen, Matthew Johnson, Linnea Meyer. "Noble Group." HBS Case 210-021.

Book Chapters

- Alfaro, Laura and Matthew Johnson. 2012. "Foreign Direct Investment and Growth." Chap. 20 in *The Evidence and Impact of Financial Globalization*, edited by Gerard Caprio, 299–307. Elsevier.

CONFERENCES AND PRESENTATIONS

- 2016: Strategy and the Business Environment Annual Conference
- 2015: Southern Economic Association Annual Meeting
- 2014: Society of Labor Economists (SOLE) Annual Meeting; Alliance for Research in Corporate Sustainability (ARCS) Annual Meeting; Washington University Economics Graduate Student Conference; White House Office of Science and Technology Policy
- 2013: Harvard School of Public Health ERC Seminar
- 2012: Association for Public Policy and Management Fall Research Conference, Baltimore MD

COMPUTER SKILLS: STATA, LaTeX, R

OTHER EXPERIENCE

- 2014-2015: BU Labor Reading Group founder/organizer; 2013-2014: BU Graduate Economics Association Officer; 2012-2015: Volunteer Tutor with Tutoring Plus! (2012-2015)

Barbara J. Arestegui

Karen A. Martin

Betty A. Ong

Freifelder & Associates
Consulting, Inc.

*Freifelder & Associates Consulting, Inc.
360 Lexington Avenue, 16th Floor
New York, NY 10017
Tel: (212) 521-8100 Fax: (212) 682-6425*

July 27, 2016

Justin Green, Esq.
Kreindler & Kreindler, LLP
750 Third Avenue
New York, NY 10017

Re: 9/11/2001 Economic Loss Analyses for Barbara J. Arestegui, Karen A. Martin, and Betty A. Ong

Dear Mr. Green:

At your request, I analyzed the economic losses of the Estates of Barbara J. Arestegui, Karen A. Martin, and Betty A. Ong in the fall of 2005. This analysis involved estimating the economic value of Ms. Arestegui's, Ms. Martin's, and Ms. Ong's estates at their respective life expectancies, based on the following factors:

- (i) each woman's earnings capacity in September 2001, which ranged approximately from \$43,500 to \$47,500 per year,
- (ii) the date of their retirement, age 62 or age 67,
- (iii) the retirement income that they could have expected to receive from their union pension and from Social Security,
- (iv) their personal consumption expenses, which I estimated as approximately 63% to 70% of their earnings or their retirement income, and
- (v) that they could expect to receive an average rate of return on their savings or investments of 4.50% per year.

Barbara J. Arestegui was 38.89 years old when she died on September 11, 2001. In 2005, I estimated her life expectancy as 42.70 years and her expected date of death as 2044.39 at 81.59 years old. Karen A. Martin was 40.73 years old on September 11, 2001 and I estimated her life expectancy as 40.94 years, or to 2042.64 when she would have been 81.67 years old. Betty A. Ong was 45.60 years old on September 11, 2001. I estimated Ms. Ong's life expectancy as 36.16 years and her date of death as 2037.86 at the age of 81.76.

Freifelder & Associates Consulting, Inc.

In my 2005 analyses, I relied on the assumptions that are outlined above and my life expectancy estimates for Barbara J. Arestegui, Karen A. Martin, and Betty A. Ong to determine the economic value of their estates at the end of each woman's life as indicated in the following table. The economic values that appear in this table represent the estimated amount of Ms. Arestegui's, Ms. Martin's, and Ms. Ong's estate at the end of their lives. That is, these figures represent the amounts that would have been available for distribution in 2044 when Barbara J. Arestegui would have been expected to die, in 2042 upon Karen A. Martin's death, and at Betty A. Ong's life expectancy in 2037.

Estate of	(Undiscounted) Dollar Value of Estate at Life Expectancy Assuming	
	<u>Age 62 Retirement</u>	<u>Age 67 Retirement</u>
Barbara J. Arestegui	\$1,936,713	\$2,366,810
Karen A. Martin	\$1,982,074	\$2,500,873
Betty A. Ong	\$994,183	\$1,404,482

You recently asked me to determine the present value of the (undiscounted) end-of-life estate estimates that I developed for Ms. Arestegui, Ms. Martin, and Ms. Ong in 2005. I have calculated the present value amounts by using the same interest rate, 4.50% per year, that I used in 2005 to estimate the rate of return that Barbara J. Arestegui, Karen A. Martin, and Betty A. Ong could have expected to receive on the assets (estate) that they would have accumulated from September 11, 2001 to the end of their lives.

According to the article "Net Accumulation to the Estate: Meaning and Measurement" (Frank Slesnick and Michael J. Piette, Journal of Forensic Economics, vol. 20, no. 3, 2007, pp. 227-250), it is appropriate in most economic loss of inheritance analyses to use a discount rate in the present value calculation that is equal to the individual's expected rate of return on their investments. Therefore, I have estimated the present value of Ms. Arestegui's, Ms. Martin's, and Ms. Ong's end-of-life estates on July 1, 2016 by using the formula that appears below and a discount/interest rate of 4.50% per year.

Freifelder & Associates Consulting, Inc.

$$\text{PV (Estate at Life Expectancy)} = \text{Dollar Value of Estate} / 1.045^{(\text{Life Expectancy} - 2016.50)}$$

Estate of	July 1, 2016 Present Value of Estate at Life Expectancy Assuming	
	<u>Age 62 Retirement</u>	<u>Age 67 Retirement</u>
Barbara J. Arestegui	\$567,317	\$693,304
Karen A. Martin	\$627,288	\$791,478
Betty A. Ong	\$388,306	\$548,559

As the figures in the preceding table indicate, I have estimated the present value of Barbara J. Arestegui's estate as \$567,317 to \$693,304, the present value of Karen A. Martin's estate as \$627,288 to \$791,478, and the present value of the estate of Betty A. Ong as \$388,306 to \$548,559 to a reasonable degree of economic certainty.

If you have any questions, please call me at 212.521.8100

Sincerely yours,

Leonard R. Freifelder, Ph.D.